

REMARKS

Claims 1-24 are pending in the application, and are subject to restriction or election requirement. Claims 1-3 were rejected, and claims 4-12 were objected to. Claims 13-24 were withdrawn from consideration, and are canceled herein. Accordingly, claims 1-12 remain active in the application. In view of the following remarks, reconsideration of the application is respectfully requested.

Election/Restrictions

In a telephone conversation with the Examiner on February 12, 2004, a provisional election was made without traverse to prosecute the invention of Group I, claims 1-12. The applicant affirms the election without traverse to prosecute the invention of Group I, claims 1-12, and has canceled remaining claims 13-24.

Claims rejections – 35 U.S.C. § 103

Claims 1-3 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Anstrom et al. U.S. Patent No. 6,407,341 ("Anstrom") in view of Blake et al. U.S. Patent No. 4,771,366 ("Blake"). The applicant respectfully traverses this rejection and submits that the rejection fails to present a *prima facie* case of obviousness.

The Examiner states that Anstrom discloses, *inter alia*, "two power plane layers (52/55/59), stacked between layers of a second dielectric material (152) having better void-filling capability, during lamination under similar conditions, than the first dielectric material." Although Anstrom does disclose two power plane layers with a dielectric stacked between, Anstrom does not disclose that the dielectric that is stacked between the power layers has a *better void-filling capability* than the dielectric material stacked between the signal layers. Anstrom simply discloses the use of a single dielectric material used throughout. Having two different dielectric materials is a claimed inventive principle of the current application. The better void-filling capability is useful because the high-speed differential traces may be a different thickness than the power plane layers, creating larger voids to be filled in the power plane layers, which need not have high-frequency performance. Because neither Anstrom nor Blake discloses the use of different dielectrics as claimed or a motivation or suggestion for using two different dielectrics, applicant submits that the combination of references fails to create a *prima facie* case of obviousness.

Furthermore, the Examiner states that Anstrom discloses "a plurality of high-speed differential trace layers (62)." The applicant could find no mention of any layers in Anstrom that comprise a plurality of *high-speed differential trace layers* as is required by claim 1, and layer 62 pointed to in the rejection is described by Anstrom as a power layer. Anstrom does not disclose the use of high-speed trace layers. Nor does Anstrom disclose the use of differential trace layers.

The Examiner also states that Anstrom discloses "laminating the first and second layer arrangements such that the first and second layer arrangements interface across a reference plane." Applicant could not locate within Anstrom any disclosure of the use of a *reference plane*. Anstrom only discloses signal planes and power planes used in an xSyP construction. A claimed aspect of the present invention is the use of reference planes between each signal plane. Another claimed aspect of the present invention is that the first and second dielectrics are laminated across such a reference plane, resulting in a construction in which the two dielectrics remain substantially separated. Anstrom makes no such disclosure.

Furthermore, the Examiner states that Anstrom discloses "plated through holes electrically connecting the reference plane layers." Because Anstrom fails to disclose the use of reference plane layers, Anstrom cannot and does not disclose through holes connecting reference layers. Figure 15a of the present disclosure shows an exemplary embodiment with plated through holes connecting each reference layer while not connecting the power layers, whereas Anstrom, for example in Figure 8, does not show plated through holes connecting all reference layers.

In summary, neither Anstrom nor Blake apparently teaches or suggests the use of two different dielectrics, one with better void-filling capability, the high-speed differential trace/reference plane construction, the interfacing of the two different dielectrics across a reference plane, and the through holes as recited in the rejected claims. Accordingly, Applicant respectfully submits that the combination of references fails to create a *prima facie* case of obviousness.

Allowable Subject Matter

Applicant acknowledges the indication of allowable subject matter in claims 4-12. Claims 4-12 were objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. In view of the arguments presented above in favor of

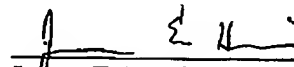
patentability of the rejected base claims, Applicant has elected not to rewrite claims 4-12 at the present time.

Conclusion

For the foregoing reasons, reconsideration and allowance of claims 1-12 of the application as amended is solicited. The Examiner is encouraged to telephone the undersigned at (503) 222-3613 if it appears that an interview would be helpful in advancing the case.

Respectfully submitted,

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